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WIRELESS DUAL INPUT K/J DIGITAL THERMOMETER

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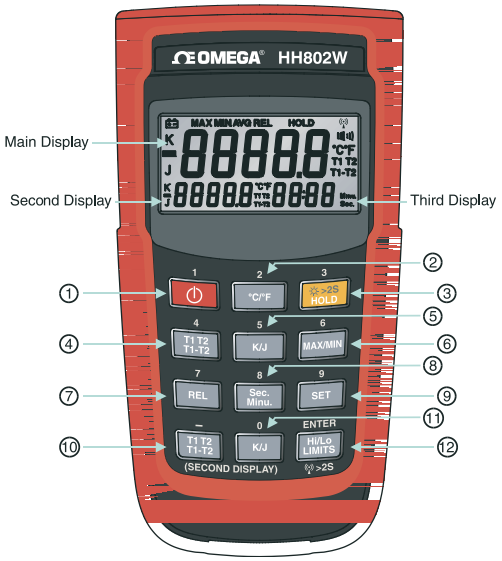

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The information contained in this document is believed to be correct, but OMEGA accepts no liability for any errors it contains, and reserves the right to alter specifications without notice.
WARNING: These products are not designed for use in, and should not be used for, human applications.

INTRODUCTION

This instrument is a 5 digit, compact-sized portable digital thermometer designed to use external K-type and J type thermocouples as temperature sensor. Temperature indication follows Reference Temperature/Voltage Tables (N.I.S.T. Monograph 175 Revised to ITS-90) for K-type and J-type thermocouples. Two K-type thermocouple are supplied with the thermometer.

SAFETY INFORMATION

It is recommended that you read the safety and operation instructions before using the thermometer.

WARNING
To avoid electrical shock, do not use this instrument when working voltages at the measurement surface over 24V AC or DC.

WARNING
To avoid damage or burns, do not make temperature measurement in microwave ovens.

CAUTION
Repeated sharp flexing can break the thermocouple leads. To prolong lead life, avoid sharp bends in the leads, especially near the connector.

FEDERAL COMMUNICATIONS COMMISSION

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:(1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection. This equipment generates, uses and can radiated radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Shielded interface cables must be used in order to comply with emission limits.

Changes or modifications not expressly approved by the party responsible for compliance could void user's authority to operate the equipment.

WIRELESS NOTE
Wireless receiver must keep a distance at least 40cm from the meter and meter to meter must keep a dis tance at least 30cm.

SPECIFICATIONS

ELECTRICAL

Temperature Scale: Celsius or Fahrenheit user-selec
Measurement Range:
J-TYPE -200°C to 1050°C, (-328°F to 1922°F)
K-TYPE -200°C to 1370°C, (-328°F to 2498°F)
Resolution: 0.1°C or 0.2°F
Accuracy: Accuracy is specified for operating temperatures over the range of 18°C to 28°C (64°F to 82°F), year, not including thermocouple error.
±(0.05% rdg + 0.3°C) -50°C to 1370°C
±(0.05% rdg + 0.7°C) -50°C to -200°C
±(0.05% rdg + 0.6°F) -58°F to 2498°F
±(0.05% rdg + 1.4°F) -58°F to -328°F
Temperature Coefficient:
0.1 times the applicable accuracy specification per from 0°C to 18°C and 28°C to 50°C (32°F to 64°F 82°F to122°F).
Input Protection:
24V dc or 24V ac rms maximum input voltage on combination of input pins.
Maximum Differential Common Mode Voltage (Maximum Voltage between T1 and T2 during measurement): 1volt.
Reading Rate: 1 time per second.
Wireless Features:
Frequency range: 904~927.83MHz
Low current consumption les than 5 to 20mA
Viewable distance 25M.

ENVIRONMENTAL

Ambient Operating Ranges:
0°C to 50°C (32°F to 122°F) <80% R.H.
Storage Temperature:
-20°C to 60°C (-4°F to 140°F) <70% R.H.

GENERAL

Display: 5 digit liquid crystal display (LCD).
Overload: "----.-" or "OL" is display.
Battery: 1.5V x 4 PCS (SIZE AAA) UM-4 R03.
Battery Life: 190 hours typical with carbon zinc battery.
Auto power off: 30 minutes, press power key to resume operation.
Dimensions: 160mm(H) x 83mm(W) x 38mm(D).
Weight: Approx. 265g including batteries.
Supplied Thermocouples (2 per input):
1 meter (40") type K insulated beaded wire thermoco ple. Maximum insulation temperature is 482°C (900°F). Thermocouple accuracy is ±1.1°C or 0.4% of reading (whichever is greater) from 0°C to 1250°C.

OPERATING INSTRUCTIONS

1. "⏻" Power Switch

The ⏻ key turns the thermometer on or off. In the SET mode the unit cannot be powered off. Exit SET mode to power off.

APO function mode

Press ⏻ power key for more than 6 seconds to disable the auto-power function. The display will show "APO OFF".

2. °C/°F Selecting the Temperature Scale

Readings are displayed in either degrees Celsius(°C) or degrees Fahrenheit(°F). When the thermometer is turned on, it is set to the temperature scale that was in use when the thermometer was last turned off. To change the tem_ perature scale, press the °C/°F key.

3. ☼>2S HOLD Button (only Main display)

Press this key to enter the Data Hold mode, the "HOLD" annunciator is displayed. When HOLD mode is selected, the thermometer holds the present readings and stops all further measurements. Press the ☼>2S HOLD key again to cancel HOLD mode and resume measurement. In the MIN/MAX recording mode, press ☼>2S HOLD key to stop the recording. Press ☼>2S HOLD key again to resume recording. (Previously recorded readings are not erased).

Backlight function mode

Press the ☼>2S HOLD button for more than two seconds to turn on the backlight Press the button again for more than two seconds to turn off the backlight. The backlight will switch-off automatically after 30 seconds.

4. T1 T2/T1-T2 Main display Input Selection

The input selection indicates which input is selected for main display; T1 thermocouple, T2 thermocouple or the difference between the two thermocouples (T1-T2), when the thermometer is turned on, it is set to T1.

5. K/J T1 Input Thermocouple Type Select (only Main display)

The K/J key selects the T1 thermocouple type, when the main display is showing T1. When the thermometer is turned on, it is set to the type selected when the thermometer was last turned off.

6. MIN MAX with Time record mode (only Main display)

Press MIN MAX key to enter the MIN MAX Recording mode, (displays the Maximum reading with time, Minimum reading with time and Average reading stored in record mode). In the this mode the automatic power-off feature is disabled and ⏻ key, °C/°F key, REL key, SET key, Hi/Lo Limits key and main display T1 T2 T1-T2 key, K/J key are disabled. The beeper emits a tone when a new minimum or maximum value is recorded.

Push MIN MAX key to cycle through the MAX, MIN and AVG readings. If an overload is recorded, the averaging function is stopped. In this mode, press the HOLD key to stop the recording of readings, all values are held, press again to restart recording.

To prevent accidental loss of MIN, MAX and AVG data, this mode can only be cancelled by pressing and holding the MIN MAX key for 2 seconds. All recorded readings are erased.

7. REL Relative mode (only Main display)

Press the REL key to enter the Relative mode, zero the display, and store the displayed Reading as a reference value. REL is shown on the display. Press REL key again to exit the relative mode. The relative reference value can also be entered by the user. (See "SET mode" later in this manual.) When the desired Relative value has been entered, press REL key to enter the Relative mode and then press SET key use the entered Relative value as a reference value. Press REL key again to exit the relative mode. In the Relative mode, the value (can not >±3000.0 counts) shown on the LCD is always the difference between the stored reference and the present reading.

8. Sec. Minu. Selecting the Time scale

Press this key to display the elapsed time on the third display in either hours and minutes or minutes and seconds. When the thermometer is turned on, it is set to seconds. To change the time scale, press sec. Minus. key. Maximum elapsed time reading is 100 hours. If 100 hours is exceeded, the elapsed time resets to zero.

9. SET mode (Relative value set, Time set and Hi/Lo Limits value set)

9.1 Press the SET key to enter Relative value SET mode (Press ENTER key to skip setting relative value). = = = =.= is displayed on the main display. The Relative value is entered via overlay numbers, press overlay ENTER key to store the relative value, and advance to elapsed time set mode.

9.2 Elapsed Time set mode, (Press ENTER key to skip Elapsed Time set mode) =.= = = : = = is displayed in second and third display. Time (hours, minutes, seconds) value is entered via overlay numbers, press overlay ENTER key to store Time value. Elapsed Time starts from set time value.

9.3 Hi Limit value set mode, 🔊 is displayed (Press ENTER key to skip Hi Limit value set mode), = = = =.= is displayed in main display, Hi Limit value is entered via overlay numbers, then press ENTER key to store the Hi Limit value. = = = =.= is displayed in main display, Lo Limit value is entered via overlay numbers, then press overlay ENTER key to store the Lo Limit value and exit SET mode.

9.4 When the thermometer is turned on it uses the Relative value and Hi/Lo Limits values that were entered when thermometer was last in use.

10. T1/T2 T1-T2 second display Input Selection

The input selection indicates which input is selected for second display; T1 thermocouple, T2 thermocouple or the difference between the two thermocouples (T1-T2). When the thermometer is turned on, it is set to T2 input. To select a different type of thermocouple use the K/J button.

11. K/J T2 Input thermocouple type select (second display)

The K/J button for T2 input selects K-type or J-type thermocouple as input, when the second display has T2 shown. When the thermometer is turned on, it is set to the type selected when the thermometer was last turned off.

12. Hi/Lo Limits mode (only Main display)

Press Hi/Lo Limits key to enter the Hi/Lo Limits comparative mode. 🔊 is displayed. When the input temperature value exceeds the Hi or Lo Limit value, the beeper emits a continuous or pulsed tone. Press Hi/Lo Limits key again to exit the Hi/Lo Limits mode.

13. WIRELESS MODE:

Press the 📡 button for more than two seconds to start wireless function. Press the 📡 button again for another two seconds to stop wireless function. The wireless mode will shut down if there is no wireless signal for two minutes.

To SET CH/ID to 00,00, press the Hi/Lo Limits button and ⏻ power button for more than 6 seconds with the meter powered down. The meter will set channel and ID to 00,00 status. The second display will show 00, which means that the channel and ID has been set to 00.

WARRANTY/DISCLAIMER

OMEGA ENGINEERING, INC. warrants this unit to be free of defects in materials and workmanship for a period of **13 months** from date of purchase. OMEGA's WARRANTY adds an additional one (1) month grace period to the normal **one (1) year product warranty** to cover handling and shipping time. This ensures that OMEGA's customers receive maximum coverage on each product.

If the unit malfunctions, it must be returned to the factory for evaluation. OMEGA's Customer Service Department will issue an Authorized Return (AR) number immediately upon phone or written request. Upon examination by OMEGA, if the unit is found to be defective, it will be repaired or replaced at no charge. OMEGA's WARRANTY does not apply to defects resulting from any action of the purchaser, including but not limited to mishandling, improper interfacing, operation outside of design limits, improper repair, or unauthorized modification. This WARRANTY is VOID if the unit shows evidence of having been tampered with or shows evidence of having been damaged as a result of excessive corrosion; or current, heat, moisture or vibration; improper specification; misapplication; misuse or other operating conditions outside of OMEGA's control. Components in which wear is not warranted, include but are not limited to contact points, fuses, and triacs.

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RETURN REQUESTS / INQUIRIES

Direct all warranty and repair requests/inquiries to the OMEGA Customer Service Department. BEFORE RETURNING ANY PRODUCT(S) TO OMEGA, PURCHASER MUST OBTAIN AN AUTHORIZED RETURN (AR) NUMBER FROM OMEGA'S CUSTOMER SERVICE DEPARTMENT (IN ORDER TO AVOID PROCESSING DELAYS). The assigned AR number should then be marked on the outside of the return package and on any correspondence.

The purchaser is responsible for shipping charges, freight, insurance and proper packaging to prevent breakage in transit.

FOR **WARRANTY** RETURNS, please have the following information available BEFORE contacting OMEGA:

1. Purchase Order number under which the product was PURCHASED,
2. Model and serial number of the product under warranty, and
3. Repair instructions and/or specific problems relative to the product.

FOR **NON-WARRANTY** REPAIRS, consult OMEGA for current repair charges. Have the following information available BEFORE contacting OMEGA:

1. Purchase Order number to cover the COST of the repair,
2. Model and serial number of the product, and
3. Repair instructions and/or specific problems relative to the product.

OMEGA's policy is to make running changes, not model changes, whenever an improvement is possible. This affords our customers the latest in technology and engineering.

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OPERATOR MAINTENANCE

WARNING

To avoid possible electrical shock, disconnect the thermocouple connectors from the thermometer before removing the cover.

Battery Replacement

1. Power is supplied by 4pcs 1.5V (AAA SIZE) UM-4 R03.
2. The "🔋" appears on the LCD display when replacement is needed. To replace battery remove screw back of meter and lift off the battery cover.
3. Remove the battery from battery contacts and replace
4. When not in use for long periods remove battery.
5. Do not store in locations with high temperatures, high humidity.

Cleaning

Periodically wipe the case with a damp cloth and gent, do not use abrasives or solvents.

***Software Operation manual is on the Software disk.**

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